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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,216	12/12/2001	Minoru Yamada	01802/HG	8903

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,216

Applicant(s)

YAMADA, MINORU

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 3-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species A, Claims 1-2 in the reply filed on 9/15/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 3-7 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/15/04.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of four total references:

Temple et al 5,185,055, referred to hereinafter as Temple'055;

Temple 5,016,028, referred to hereinafter as JP'028;

Wojnarowski et al 5,302,547; and

Sakamoto et al 4,725,345.

Temple'055 discloses a method of manufacturing an ink-jet print head comprising: forming on a surface of a channel plate 1 (in Figs. 3a-3e) having a plurality of grooves 29 for the ink channels, a thin-film plating layer (silicon nitride layer 25) by deposition which has a thickness taken in the vertical direction; removing a part of the thin-film plating layer 25 (see sequence of Figs. 3a to 3b); and plating the channel plate 1 thereby forming an additional plating layer 27 on the thin-film plating 25 on a portion that has not been removed by any laser beam in which the additional plating layer forms electrodes. The claimed "desired thickness" is read as the dimension taken from the top surface of the additional plating layer 25 above the channel plate 1 to the bottom surface of the additional plating layer taken in the middle of the channels 29.

Regarding Claim(s) 1, Temple'055 does not mention that the thin-film plating layer, read as silicon nitride layer 25, is formed by plating. Temple'055 also does not teach that part of the thin-film plating layer is removed by a laser beam, but rather that part of the thin-film plating layer is removed with a saw or saw cutting means.

To form a thin-film plating layer of silicon nitride by plating is a conventional, old and notoriously well known method of deposition in the art. As evidence of obviousness, the examiner cites Sakamoto (at col. 8, lines 54-58), which teaches ion plating a thin-film plating layer of silicon nitride. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Temple'055 by forming the thin-film plating layer specifically by plating, as taught by Sakamoto, to positively provide an alternative means of coating or depositing a thin-film plating layer.

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Wojnarowski et al teaches that one means of patterning a thin-film plating layer, i.e. a silicon nitride layer, is by using a laser beam to remove part of the thin-film plating layer (see col. 7, lines 57+ and sequence of Figs. 3a - 3c). The laser beam is also used to form channels 23 in a channel plate layer (either 18 or 20) just beneath the thin-film plating layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the laser beam of Wojnarowski for the saw cutting means of Temple'055, to provide an alternative means of removing part of the thin-film plating layer.

Regarding Claim(s) 2, it is noted that Temple'028 is fully incorporated by reference in Temple'055 (see Temple'055 at col. 6, lines 14-18). Temple'028 suggests that additional plating layers that form electrodes can be made from at least nickel (see col. 4, lines 36-39).

Conclusion

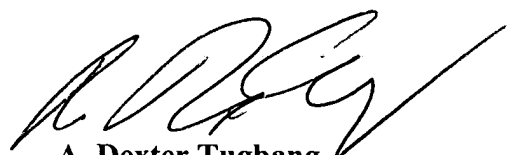
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

November 29, 2004